DAMASKIN, B.B.; DYATKINA, S.L.

Determination of the attraction constant from the nonequilibrium differential capacity curves. Elektrokhimiia 1 no.6:706-709 Je '65.
(MIRA 18:7)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

DYATKO, E.K.; LYUBENKO, Yu.D.

Conveyor for assembling wardrobes. Der. prom. 12 no.7:23-24 Jl '63. (MIRA 16:8)

1. Gomel'skiy derevoobrabatyvayushchiy kombinat.
(Cabinetwork)

DYATKOV, S.V., inzh.

Effective roofing of rolling mills. Prom. stroi. 39 no.3:37-43 '61. (MIRA 14:4)

(Roofing)

DYATKOV, S.V., inzh.

Performance of heated asbestos cement roofs of rolling mills.
Prom stroi. 39 no.6:48-54 '61. (MIRA 14:7)

1. TSentral'nyy nauchno-issledovatel'skiy i proyektno-eksperimental'nyy institut promyshlennykh zdaniy i sooruzheniy.
(Magnitogorsk--Rolling mills)
(Asbestos cement)
(Roofing)

DYATKOVA, O.S.

PETROV, A.A.; BRAVO, Ye.S.; DAVIDOVICH, V.V.; DYATKOVA, O.S.; KUZNETSOVA, G.V.

Investigations in the field of conjugated systems. Part 49. Order of adding alkyl hypohalides to tertiary vinylacetylene alcohols. Zhur.ob. khim. 23 no.7:1120-1124 Jl '53. (MLRA 6:7)

1. Laboratoriya organicheskoy khimii Leningradskogo tekhnologicheskogo instituta imeni Lensoveta. (Halides) (Vinylacetylene alcohol)

DYATKOVA, V.S.

Schisandra in the Penza Botanical Garden. Biul. Glav. bot. sada no.42:106-107 '61. (MIRA 17:3)

1. Penzenskiy botanicheskiy sad.

GOLOVASHCHUK, S.I. [Holovashchuk, S.I.]; SOKOLOVSKIY, I.L. [Sokolovs'kyi, I.L.]; BONDARCHUK, V.G. [Bondarchuk, V.H.], akademik, otv.red.; DYATKOVSKAYA, N.P. [Diatkivs'ka, N.P.], red.-leksikograf; BABINETS, A.E. [Babynets', A.IE.], kand.geol.-mineral.nauk, red.; DYADCHENKO, M.G. [Diadchenko, M.H.], kand.geol.-mineral.nauk, red.; KAPTARENKO-CHERNOUSOVA, O.K., doktor geol.-mineral.nauk, red.; NOVIK, K.O., red.; PISKORS'KA, O.K., red.; SOROCHAN, O.A., red.; USENKO, I.S., kand.geol.-mineral.nauk, red.; SHUL'GA, P.L. [Shul'ha, P.L.], doktor geol.-mineral.nauk, red.; SHTUL'MAN, I.F., red.izd-va; BUNIY, R.O., tekhn.red.

[Russian-Ukrainian geological dictionary; 19000 words] Russko-ukrainskii geologicheskii slovar'. 19000 terminov. Sost.S.M. Golovashchuk i I.L.Sokolovskii. Kyiv, Izd-vo Akad.nauk USSR, 1959. 280 p. (MIRA 13:6)

1. Akademiya nauk USSR, Kiyev. 2. AN USSR (for Bondarchuk). 3. Chlen-korrespondent AN USSR (for Novik).
(Geology--Dictionaries)
(Ukrainian language--Dictionaries--Russian language)
(Russian language--Dictionaries--Ukrainian language)

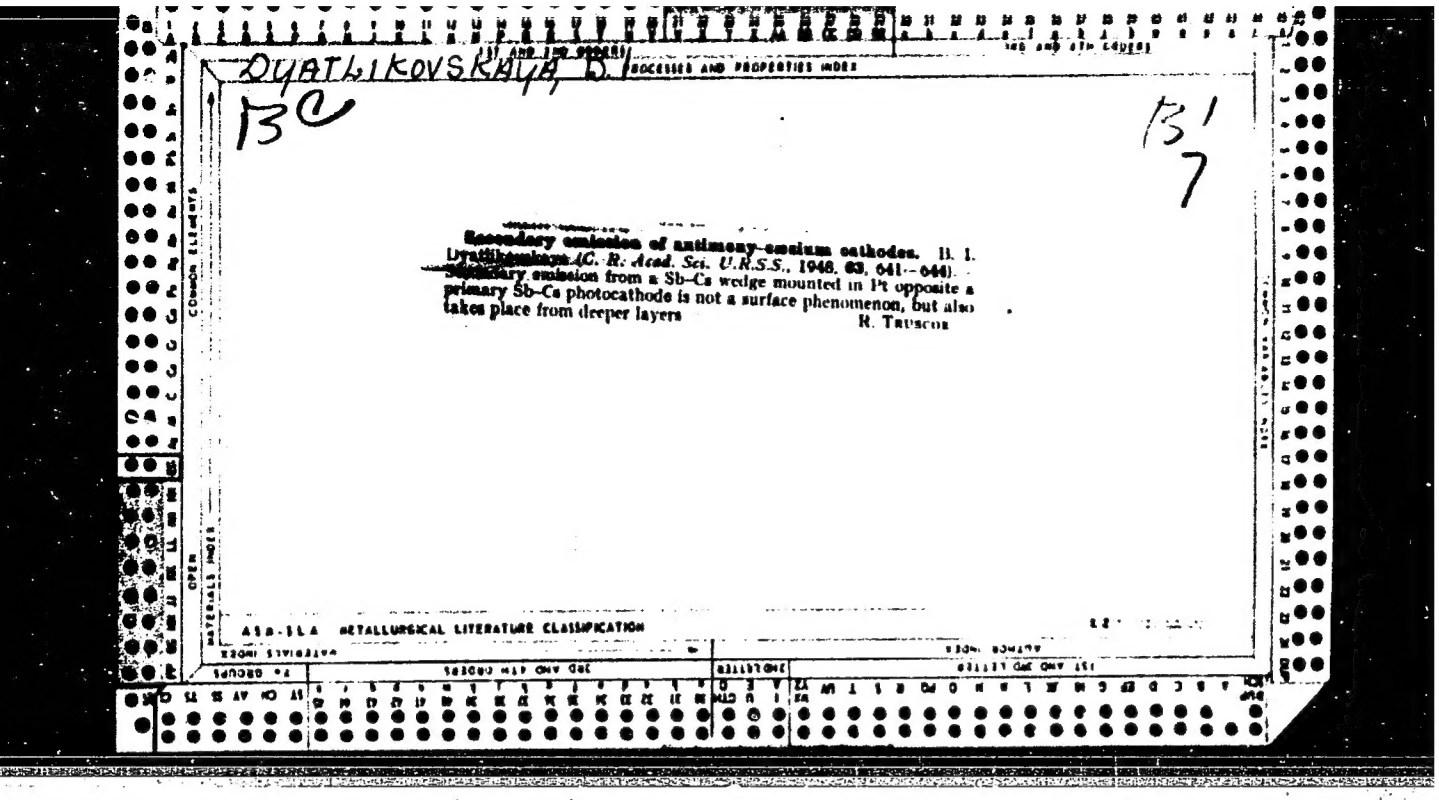
DYATLENKO, V., gvardii general-mayor

Stamina is developed in daily training. Voen. vest. 42 no.6: 44-46 Je '62. (MIRA 15:6)

(Morale)

DYATLEV, V.N.; SOKOLOV, F.S.; TUNKOV, V.P., inzhener, retsenzent; KRYLOV, V.I. inzhener, redaktor; ADRYANOVA, V.P., inzhener, redaktor; POPOVA, S.M. tekhnicheskiy redaktor.

[Repairing flaws in steel and nonferrous castings] Ispravlenie porokov stal'nogo i tsvetnogo lit'ia. Moskva, Gos. nauchno-tekhn izd-vo mashinostroit. lit-ry, 1955. 131 p. (MLRA 8:8)
(Founding)



DYATLIKOVSKAYA, B.

13C

13'
7

Secondary emission of antimony-cesium cathodes. B. I. Dyatlikovskaya. *C. R. Acad. Sci. U.R.S.S.*, 1948, **63**, 641–644). Secondary emission from a Sb–Cs wedge mounted in Pt opposite a primary Sb–Cs photocathode is not a surface phenomenon, but also takes place from deeper layers

R. Truscon

A58-51A METALLURGICAL LITERATURE CLASSIFICATION

DYATLOV, A.A.

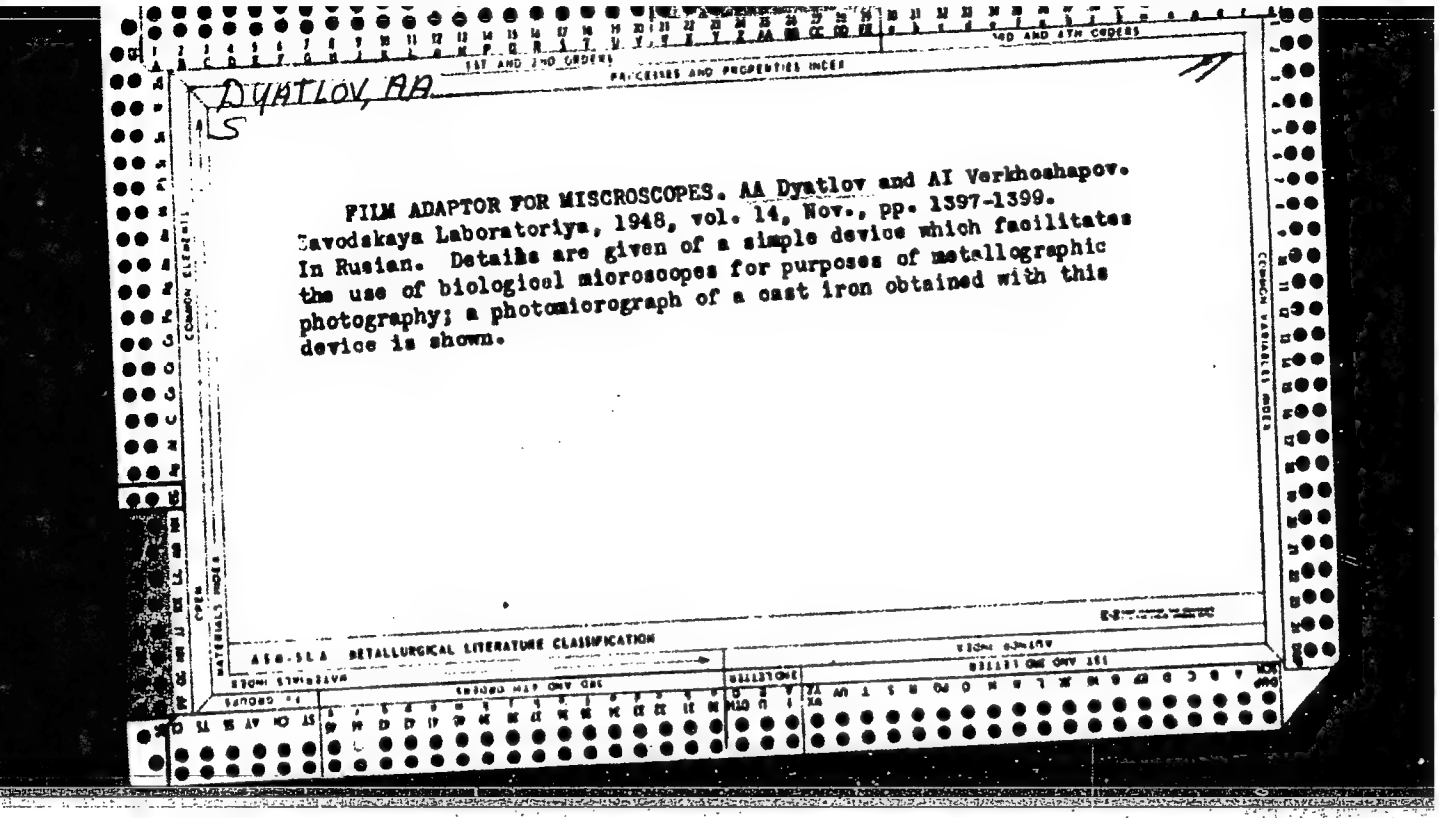
USSR/Engineering Dec 48
Metallography
Microscopy

"Metallographic Microscope for Research Work Outside the Laboratory," L. Elim, A. Dyatlov, A. Verkhoshapov, 2 pp

"Morskoy Flot" No 12

Authors have adapted a normal microscope into a portable unit which can be used to conduct metallographic studies of damaged ship parts which cannot be brought to the laboratory. Found 50-300 magnification range most suitable for this work. Gives details and diagrams of construction. Instruments can be prepared at any ship-repair yard, which should facilitate its widespread use.

61/49T26



DYATLOV, AA
S

FILM ADAPTOR FOR MISCROSCOPES. AA Dyatlov and AI Verkhoshapov. Zavodskaya Laboratoriya, 1948, vol. 14, Nov., pp. 1397-1399. In Rusian. Detailss are given of a simple device which facilitates the use of biological microscopes for purposes of metallographic photography; a photomicrograph of a cast iron obtained with this device is shown.

DYATLOV, A. A.

PA 169T57

USSR/Metals - Friction, Testing Sep 50

"Pendulum Tribometer for Investigation of Exterior Sliding Friction," A. A. Dyatlov, L. V. Yelin, S. A. Sukhov

"Zavod Lab" Vol XVI, No 9, pp 1108-1111

Authors discuss previous methods for investigation of rolling and sliding friction with aid of oscillating systems, and suggest their own device, pendulum tribometer, in which some faults of inclined pendulum are eliminated. Tribometer is adaptable for investigating

169T57

USSR/Metals - Friction, Testing (Contd) Sep 50

friction not only of dry surfaces but also friction in presence of boundary lubrication.

169T57

DYATLOV, A.A.

DYATLOV, A. A.

"Investigation of Thermite Welding of Bars Having a Large Cross Section." Cand Tech Sci, Odessa Inst of Engineers of the Maritime Fleet, Odessa, 1954. (RZhKhim, No 22, Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (11)

SO: Sum. No. 521, 2 Jun 55

FAKHRETDINOV, P.S., inzh.; DYATLOV, A.A., inzh.

Control of inert material dosing systems. Prom. energ. 20 no.1:17-19 Ja '65. (MIRA 18:4)

PERVOMAYSKIY, G.S.; CHAGIN, K.P.; DYATLOV, A.G.

Materials on the biology of Ornithodorus coniceps Can. (Acarina, Ixodoidea) [with summary in English]. Ent.oboz. 37 no.4:889-895 '58. (MIRA 11:12)
(Ticks) (Parasites--Water birds)

DYATLOV, A.I.; MALYGINA, Z.G.; ONISIMOVA, S.I.

Infection of greater gerbils by leishmaniasis in Karakul District Bukhara Province. Med. paraz. i paraz. bol. 32 no.3: 306-308 My-Je '63 (MIRA 17:3)

1. Iz Bukharskogo protivochumnogo otdeleniya.

KORYTIN, S. A.; BISERKIN, V. F.; DYATLOV, A. I.

Birds - Eggs and Nests

Problem of studying the flexibility of the nesting instinct of small birds
Biul. MOIP Otd. biol. 57 No. 1, 1952

SO: Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

DYATLOV, A.I.

DYATLOV, A.I.

Exchanging eggs of small birds in exposed nests. Zool.zhur. 32 no.5:1026 S-O '53. (MLRA 6:10)

1. Moskovskiy pushno-mekhovoy institut. (Birds--Eggs and nests)

Sur. Ornith.

Moscow Fur & Fur Inst., Min Higher Ed. USSR.

DYATLOV, A.I.

USSR/Ecoparasito ogy - Acarina and Insect-Vectors of Disease G-2
Pathogens.

Abs Jour : Ref Zhur - Biol., No 5, 1958, 19672

Author : Dyatlov, A.I.
Inst :
Title : Effect of Forage Reserves of Large Gerbil (Rhombomys opimus Licht.) on Numbers and Distribution of Fleas in Burrows.

Orig Pub : Zool. zh., 1956, 35, No 9, 1406-1409

Abstract : Observation of insecticidal effect of ferula leaves of Ferula assafoetida and wormwood Artemisia terrae albae on fleas (species not stated) of large gerbil. In test tubes the average lethal exposure for fleas (observations on 57 specimens) of ferula fresh leaves (2 cm^2 of leaf surface per test tube) and of wormwood is respectively 6 and 4 hours; of dry leaves, 9 and 25 hours. Thus, in a dry form ferula acts on fleas more effectively

Card 1/2

DYATLOV, A. I.; RUDENCHIK, Yu.V.

Distribution of some mammals in regions of Kyzyl-Kum and Ust'-Urt included in the Kara-Kalpak A.S.S.R. Trudy Inst.zool.AN Kazakh SSR 10:241-253 '59. (MIRA 12:7)
(Kyzyl-Kum--Zoogeography) (Ust'-Urt--Zoogeography)

DYATLOV, A.I.

Materials on the biology of the suslik Spermopilopsis leptodactylus Licht. in the Kara-Kalpak area of the Kyzyl-Kum. Trudy Inst. zool. AN Kazakh. SSR 13:37-44 '60. (MIRA 13:7)

1. Mukusskaya protivochumnaya stantsiya.
(Kara-Kalpak--Susliks)

L 23383-65 EWT(d)/EWT(m)/EWP(w)/EWA(d) EM

ACCESSION NR: AP4040337 S/0124/64/000/004/V057/V057

Mekhanika, Abs. 4V392

DYATLOV, A. V.

"Precise and Approximate Methods of Determining Large Deformations in Elastic Rods." Cand Tech Sci, Central Sci Res Inst of Industrial Structures, Moscow, 1954. (RZhMekh, Mar 55)

SO: Sum. No. 670, 29 Sep 55--Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (19)

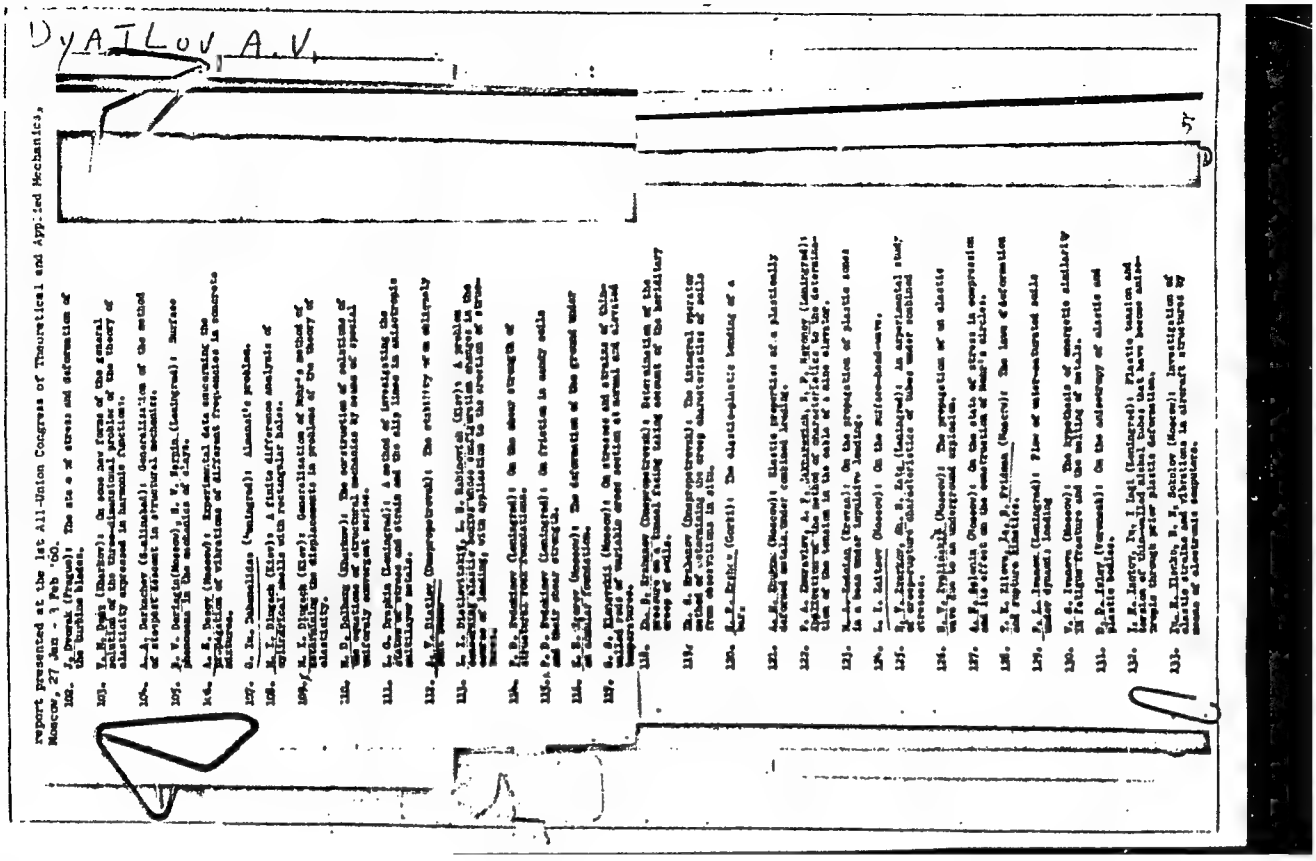
DYATLOV, A.V., dots., kand.tekhn.nauk

Using minor vibrations for studying the stability of elastic systems. Nauch.dokl.vys.shkoly; stroi. no.4:47-51 '58. (MIRA 12:7)

1. Rekomendovana kafedroy stroitel'noy mekhaniki Dnepropetrovskogo khimiko-tekhnologicheskogo instituta.
(Elastic rods and wires)

DYATLOV, A.V., kand. tekhn. nauk (Dnepropetrovsk)

Stability of rods with nonlinear characteristics. Issl. po teor. sooruzh. no.8:195-204 '59. (MIRA 12:12)
(Elastic rods and wires)



DYAILOV, A.V.

report presented at the 1st All-Union Congress of Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb '60.

30992
S/124/61/000/009/013/058
D234/D303

26.2131

AUTHORS: Dyatlov, A.V. and Khokhlov, S.F.

TITLE: On the theory of disc pulverizers

PERIODICAL: Referativnyy zhurnal. Mekhanika, no. 9, 1961, 36-37, abstract 9 B227 (Tr. Dnepropetr. khim.-tekhnol. in-t, 1960, no. 10, 27-36)

TEXT: Some problems of the theory of disc pulverizers of liquids are exposed which allow the approach to the design of these pulverizers. Stationary flow of liquid from the center to the circumference of a rotating disc is considered. A non-linear differential equation of motion of the liquid is obtained in vector form and in polar coordinates. Results of numerical integration of the equation are given: Graphs of variation of radial acceleration and angular velocity of a particle of liquid with time, absolute and relative trajectory of motion of the particles of liquid on the disc. Motion of a very thin layer of liquid on a smooth disc is

Card 1/2

X

On the theory...

considered. An approximate solution of the problem is obtained when the law of velocity distribution along the height of the layer is given. The case of motion of liquid is analyzed. Formulae are obtained for the trajectory, time of motion in the canal and radial velocity of a particle of liquid at the moment of leaving the disc. A formula is given for designing the power of the motor driving the disc, also a formula for designing the efficiency of the disc pulverizer. 7 references. [Abstracter's note: Complete translation]

X

DYATLOV, A.V.; KHOKHLOV, S.F.

Motion of a drop on the surface of a rotating disc. Trudy DKHTI no.10:43-50 '60. (MIRA 14:1)
(Drops) (Spraying and dusting)

DYATLOV, A.V.; KAPRANOV, V.P.

Calculation of flexible beams with discontinuous joints. Trudy DKHTI no.10:155-160 '60. (MIRA 14:1)
(Deformations (Mechanics))

DYATLOV, A.V., kand.tekhn.nauk (Dnepropetrovsk)

Rigidity of beams under transverse flexure. Issl. po teor. sooruzh. no.10:69-80 '61. (MIRA 14:8)
(Beams and girders) (Flexure)

DYATLOV, A.V., kand.tekhn.nauk, dotsent

Stability of spiral springs. Izv.vys.ucheb.zav.; mashinostr. no.2:77-85 '62. (MIRA 1 :5)

1. Dnepropetrovskiy khimiko-tekhnologicheskiy institut.
(Springs (Mechanism))

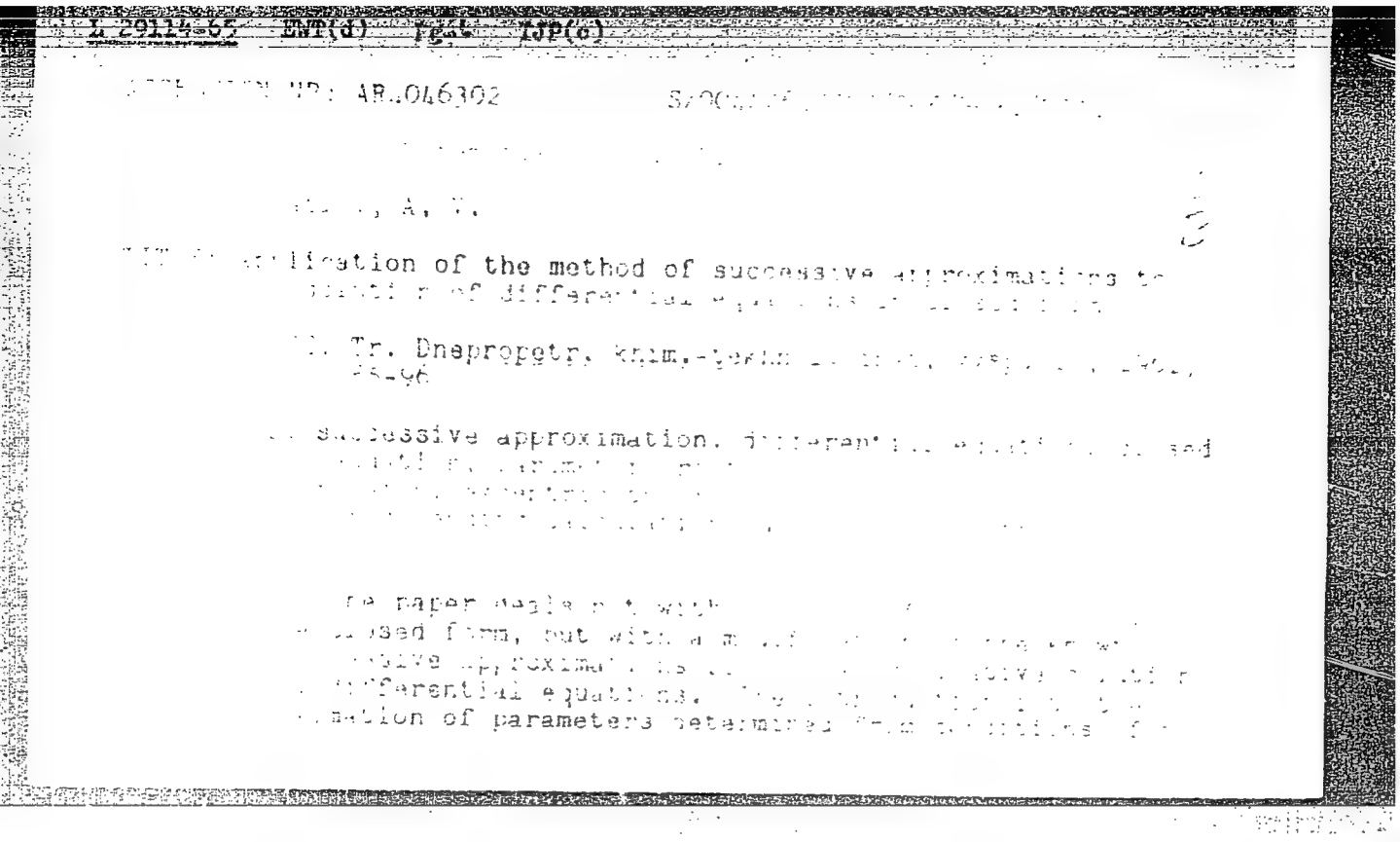
DYATLOV, A.V., kand.tekhn.nauk, dotsent (Dnepropetrovsk)

Some problems of the dynamic stability of elastic systems. Issl. po teor.sooruzh. no.11:147-162 '62. (MIRA 15:8)
(Elastic solids)

DYATLOV, A.V. (Dnepropetrovsk):

"Local buckling of thin plates."

report presented at the 2nd All-Union Congress on Theoretical and Applied Mechanics, Moscow 29 Jan - 5 Feb 64.



L 29114-65 EWT(d) FCS JDP(c)

AR.046302

A, V.

lication of the method of successive approximations to

Tr. Dnepropetr. khim.-tekhn. in-t, vyp. , 1964,

Successive approximation, differential

paper deals with

used form, but with

sive approximat

ferential equations.

ation of parameters determined

ACCESSION NR: AR4046302

-mean-square deviations between the first and the

ZAKHARENKO, I.P., kand. tekhn. nauk; DYATLOV, A.V.

Standard technological process for grinding and lapping hard-alloy tools with synthetic diamond wheels. Mashinostroitel' no.10:14-16 O '64. (MIRA 17:11)

DYATLOV, A.V., kand. tekhn. nauk (Dnepropetrovsk)

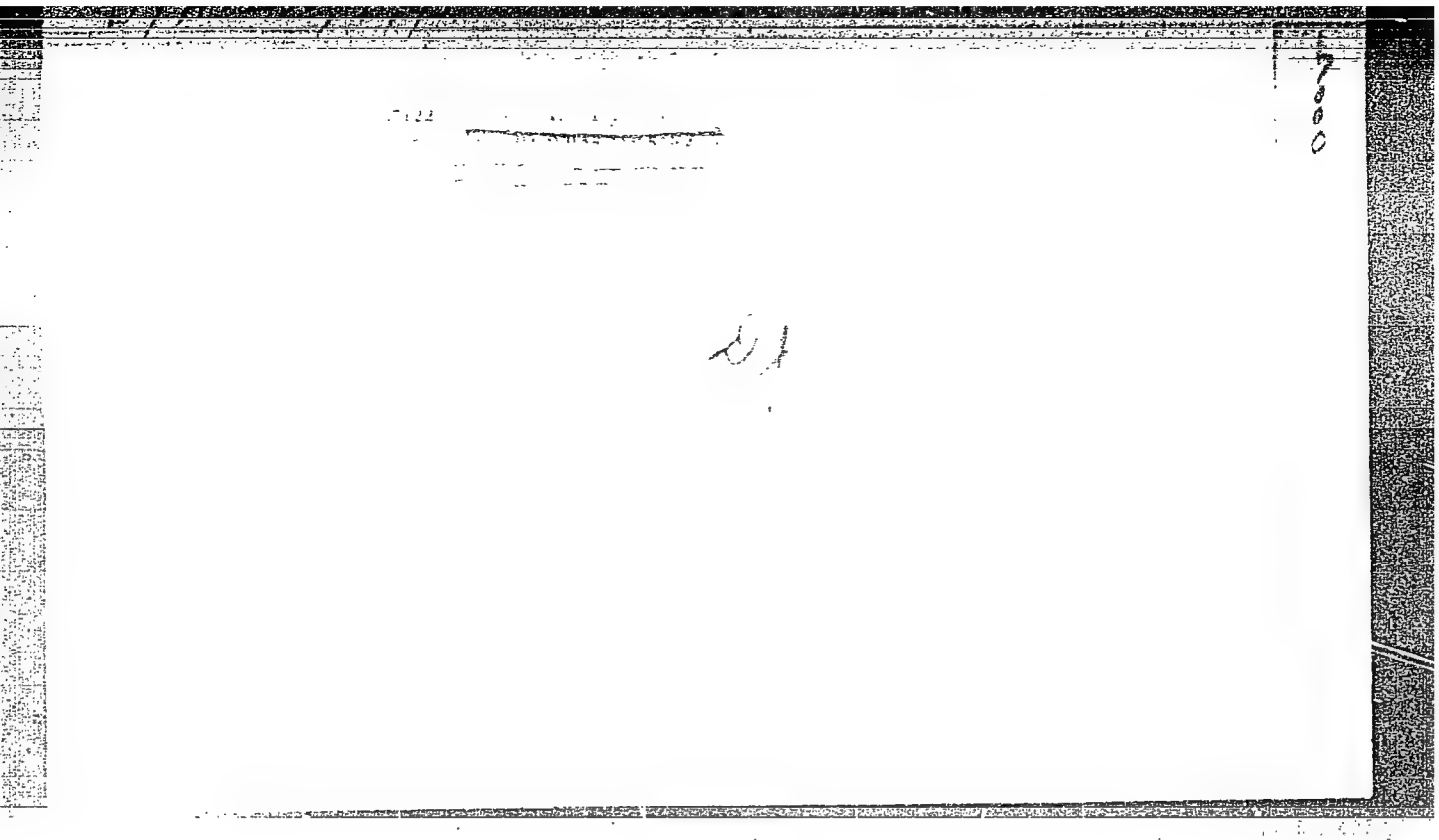
Stability of the flat form of the curvature of curvilinear rods taking into account the variation in the initial curvature of the axis. Issl. po teor. sooruzh. no.13:203-210 '64.
(MIRA 18:2)

DYATLOV, B.F.

KONYUSHENKO, A.T., inzhener; YUZEFOVICH, A.S., inzhener; BASHKIROVA, Ye.I., inzhener; KARAMYSHEV, F.V., inzhener; DYATLOV, B.F., inzhener; KHOROSHEV, Ye.N., inzhener.

Argon-arc welding of high-alloy steel pipes. Stal' 16 no.2: 151-155 F '56. (MLRA 9:5)

(Pipe, Steel--Welding)



DYATLOV, F.G.

Comparative studies on various methods in the determination of antibiotic sensitivity of pathogenic microbes from the enteric group. Antibiotiki 6 no.4:342-346 Ap '61. (MIRA 14:5)

1. Kafedra mikrobiologii (zav. - prof. P.N.Kashkin) Leningradskogo instituta dlya usovershenstvovaniya vrachey imeni S.M.Kirova.
(INTESTINES--MICROBIOLOGY) (ANTIBIOTICS)

DYATLOV, F.G.

Comparative study of dehydrogenase activity in antibiotic-resistant and Breslau bacteria isolated from patients. Antibiotiki 6 no.6: 521-526 Je '61. (MIRA 15:1)

1. Kafedra mikrobiologii (zav. - prof. P.N.Kashkin) Leningradskogo instituta usovershenstvovaniya vrachey imeni S.M.Kirova.
(SALMONELLA) (ANTIBIOTICS) (DEHYDROGENASE)

LIKHAREV, A.V., zamestitel' glavnogo inzhenera; DYATLOV, F.N.; GORELOV, N.I.

Reconditioning vinyl polymer belts and elastic coverings. Tekst. prom. 16 no.6:57-58 Je '56. (MLRA 9:8)

1. Zamestitel' zaveduyushchego pryadil'noy fabrikoy (for Dytlov); 2. Master valichnogo tsekha (for Gorelov).
(Vinyl polymers)
(Spinning machinery--Repairing)

DYATLOV, G.I., podpolkovnik; voyennyy letchik 1-go klassa; BALABASEV, A.P., podpolkovnik; SYCHEV, S.P., podpolkovnik, kand. voyennykh nauk, dotsent.

Tactical training of naval pilots. Mor. sbor. 49 no. 12:38-42 D '65 (MIRA 19:1)

1 43[illegible]65
ACC NR: AP6015400 (N) SOURCE CODE: UR/0375/65/000/012/0038/0042

AUTHOR: Dyatlov, G. I. (Lieutenant colonel, Military pilot first class); Balabasev, A. F. (Lieutenant colonel); Sychev, S. P. (Candidate of military sciences, Docent, Lieutenant colonel)

ORG: none

33
B

TITLE: Tactical training of navy fliers

SOURCE: Morskoy sbornik, no. 12, 1965, 38-42

TOPIC TAGS: naval aircraft, naval training, tactical warfare

ABSTRACT: Suggestions for improving the organization of tactical training of navy fliers are offered by *Morskoy sbornik* readers. The name of each reader appears in brackets following his comments. The independent solution of a complex tactical problem by each member of the crew is suggested as a means of improving the level of tactical training. The five-point system for evaluating the tactical level of pilots and navigators should be replaced by exams [Dyatlov]. Training flight exercises and combat problems should be carried out in conjunction with other flight groups, ships and naval units. Joint planning of such tactical exercises would involve all participating arms and units. The Black Sea fleet has tried joint training exercises with good results. In these exercises, representatives of the air arm should be stationed on

Card 1/2

L 43075-66

ACC NR: AP6015400

ships to direct flights, and promote flight safety. Closer collaboration between ASW ships and ASW aircraft is urged [Balabasev]. It is proposed that pilots be confronted with unfamiliar situations (in which they are supplied with insufficient data and a short time in which to react) so that they may learn how to react correctly and unhesitatingly in critical situations. The individual approach to the solution of tactical problems is deemed time-consuming and unsuited to naval aviation [Sychev].

SUB CODE: 01,15/ SUBM DATE: none/ ORIG REF: 001

Card 2/2 hs

DYATLOV, G.S.

Base stations and specialized unloading points. Zhel. dor. transp. 47 no.6:30-32 Je '65. (MIRA 18:6)

1. Nachal'nik gruzovoy sluzhby Moskovskoy dorogi.

DYATLOV, I. G., Engineer

"Investigation and Improvement of a Sowing Machine for Sugar Beets." Sub 10 Jun 47, All-Union Sci Res Inst of Mechanization and Electrification of Agriculture (VIME)

Dissertations presented for degrees in science and engineering in Moscow in 1947

SO: Sum No. 457, 18 Apr 55

DYATLOV, I. G.

Mechanization of planting kok-saghz in mineral soils. Sel'khozmashina, No 3, 1952.

DYATLOV, I.G., kand.tekhn.nauk; IL'IN, B.P., inzh.

High-precision sugar beet planter. Trakt.i sel'khozmash. no.8:23-25 Ag '59. (MIRA 12:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokhozyaystvennogo mashinostroyeniya (VISKhOM).
(Planters(Agricultural machinery)

AUTHOR: Dyatlov, I.I. (Ukrglavkoks). 146

TITLE: Comments on the paper of N.N. Gorodetskiy "The distribution of coking costs between coke, gas and by-products". (Otkliki na stat'yu N.I. Gorodetskogo "Raspredelenie zatrat na Koksovanie ugley mezhdu koksom, gazom i produktami ulavlivaniya")

PERIODICAL: "Koks i Khimiya" (Coke and Chemistry), 1957, No. 2, pp. 49 - 50, (U.S.S.R.)

ABSTRACT: The above paper (Koks i Khimiya, 1956, No. 6) is criticised. It is stated that the method of calculating proposed by Gorodestkiy is too complicated and is based on not less numerous assumptions than the method used at present.

41835

S/262/62/000/004/008/024
I014/I252

AUTHOR: Dyadlov, I. N.

TITLE: Pneumatic-mechanical fuel atomization in gas turbine engines

PERIODICAL: Referativnyy zhurnal, Silovyye ustanovki, no. 4, 1962, 36, abstract 42.4.229 "Tr. Kazansk. aviats. in-ta" 1960, no. 55, 63–74

TEXT: Results are given of comparative experimental investigations regarding the quality of atomization and the combustion process in the case of pneumatic-mechanical and mechanical fuel atomization in gas turbine engines. The ordinary two-channel fuel-air engine Ф Р-3 (FR-3) injector and the newly designed fuel-air injector with pneumatic atomization are compared. Graphs show the dependence of fuel drop size on injection pressure, as well as its distribution over the cross section of the atomizing cone for both injectors. For pneumatic-mechanical atomization, the average fuel drop volume (under experimental conditions) is 80–88 times smaller than for mechanical atomization. In the case of high uniformity of atomization in the cross section and an air pressure range of 3 to 30 at the fuel-air injector improves the combustion process in the gas turbine engine (especially under conditions of little gas and at high altitude), facilitates the use of heavy fuels, improves the starting properties of the gas turbine engine, reduces the length of the combustion chamber, etc.

[Abstracter's note: Complete translation.]

Card 1/1

L 21191-66 EWT(d)/EWT(1)/EWT(m)/T-2/EWP(t) JD

ACC NR: AT6007560 SOURCE CODE: UR/2529/63/000/076/0089/0105

AUTHOR: Dyatlov, I. N.

ORG: Kazan Aviation Institute (Kazanskiy aviatsionnyy institut)

TITLE: Approximate calculation of a fuel evaporator

SOURCE: Kazan. Aviatsionnyy institut. Trudy, no. 76, 1963. Aviatsionnyye dvigateli (Aircraft engines), 89-105

TOPIC TAGS: turbojet engine, afterburner performance, thrust augmentation, heat exchanger

ABSTRACT: When the length of a turbojet engine afterburner is increased to improve its performance, engine economy is reduced under flight regimes without afterburning. This improvement may be achieved, however, without sacrificing economy, by injecting fuel into the afterburner as a vapor rather than in the liquid state as commonly practiced. The article presents an approximate method for calculating the evaporator (heat exchanger) for heating the fuel to the required temperature. The following formulas are derived for calculating the total heat transfer surface area of the exchanger and the gas flow through it, respectively:

$$\Sigma F = \frac{C_1(t_b - t_{in}) + \frac{KT}{M}}{K_1 \Delta t'_{av}} + \frac{C_2(t_r - t_b)}{K_2 \Delta t''_{av}}.$$

Card 1/2

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ACC NR: AT6007560 0

where EF is total area; t_b, mean fuel-boiling temperature; t_{in}, fuel inlet temperature; K, overall heat transfer coefficient; T, absolute temperature; M, fuel molecular weight; t_v vapor temperature; K_1, heat transfer coefficient for heating zone; K_2, heat transfer coefficient for boiling zone; $\Delta t'_{av}$, average temperature increase in boiling; and $\Delta t''_{av}$, average temperature rise in superheating.

$$G_g = \frac{Q}{3600\, C_p \Delta t_g} \text{ kg/sec}$$

where C_g is the gas flow rate; Q, quantity of heat released from gas to exchanger surface; C_p, fuel vapor heat capacity; and Δt_g is the gas temperature drop at the exit from exchanger, °C. Orig. art. has: 54 formulas, 1 table, and 7 figures. [AS]

SUB CODE: 21/ SUBM DATE: 24Jan63/ ORIG REF: 006/ ATD PRESS: 4222

Card 2/2 PB

EWT(1)/EWT(m)/T IJP(c) JD/WW/JW/WE/JXT(CZ)
ACC NR: AT6007561 UR/2529/63/000/076/0106/0116

AUTHOR: Dyatlov, I.N.

- 76
B+1

ORG: Kazan Aeronautical Institute, Kazan (Kazanskiy aviatsionnyy institut)

TITLE: Boiling characteristics of aviation fuels at higher pressures

SOURCE: Kazan. Aviatsionnyy institut. Trudy, no. 76, 1963. Aviatsionnyye dvigateli (Aircraft engines), 106-116

TOPIC TAGS: liquid fuel, ~~boiling property~~, ~~fuel boiling temperature~~ jet fuel, kerosene, boiling, high pressure research, temperature, combustion chamber, gas turbine / TC-1 jet fuel, T-1 jet fuel

ABSTRACT: This is an experimental study of fuel boiling fractions dependence upon temperature, at higher pressures. This information is important in the design of gas turbines, e.g. in the dimensioning of heat exchange surfaces in the combustion chambers. This study is also an experimental verification of theoretical expressions for the average boiling point of fuels at high pressures, published earlier (Dyatlov, I.N., Kazan. Aviatsionnyy institut, Trudy, no. 76). A fractional distillation unit was used. The fuel (200 cm^3) was enclosed and heated until the desired pressure was reached and kept constant by a release valve leading into a condenser. The temperature was increased in steps until 95-97% of all fuel boiled out at the intended pressure. The results are presented in graphs and tables, for pressures from 1 kg/cm^2 to 21 kg/cm^2, for kerosene type jet fuels TC-1 and T-1. This enables the determination of the boiled-out fraction

Card 1/2

L 22006-66

ACC NR: AT6007561 O

dependence upon temperature at arbitrary pressures. The results show that, at high pressures, the temperature increment of higher fractions increases sharply beyond the 50% boil-out point. The average temperature of the fuel was defined as the thermal capacity weighted average of the fuel fraction temperatures, T_i :

$$T_{av} = [c_1(T_1 - T_0) + c_2(T_2 - T_1) + \ldots\ldots\ldots + c_k(T_k - T_{k-1})]/c_{av} \quad (1)$$

with c_i's - the individual thermal capacities of the fractions. The previously developed theoretical formula for the average boiling temperature of the (kerosene) fuels at higher pressures, (2), was found to give satisfactory results. The formula is:

$$T_f(P) = (30.6\ P^{.23} + 201).T_f(P_o)/T_h(P_o), \quad {}^oK \qquad (2)$$ where -

$T_f(P)$ - average boiling temperature of the fuel at the design pressure P; $T_f(P_o)$ and $T_h(P_o)$ - average boiling temperature of the fuel and of hexane, respectively, at the atmospheric pressure, P_o. The theoretical formula (2) was found to give somewhat lower temperatures than the experimental ones, obtained by the application of expression (1) to the actually obtained experimental data for the fractions. Orig. art. has: 7 figures, 4 formulas and 3 tables.

SUB CODE: 21 SUBM DATE: 24Jan63 ORIG REF: 001 OTH REF: 000

Card 2/2 BK

L 25640-65 EWG(v)/EWG(k)/EWT(d)/EWT(l)/EWT(m)/EA/EWP(h)/T-2 Pe-5/Pz-6

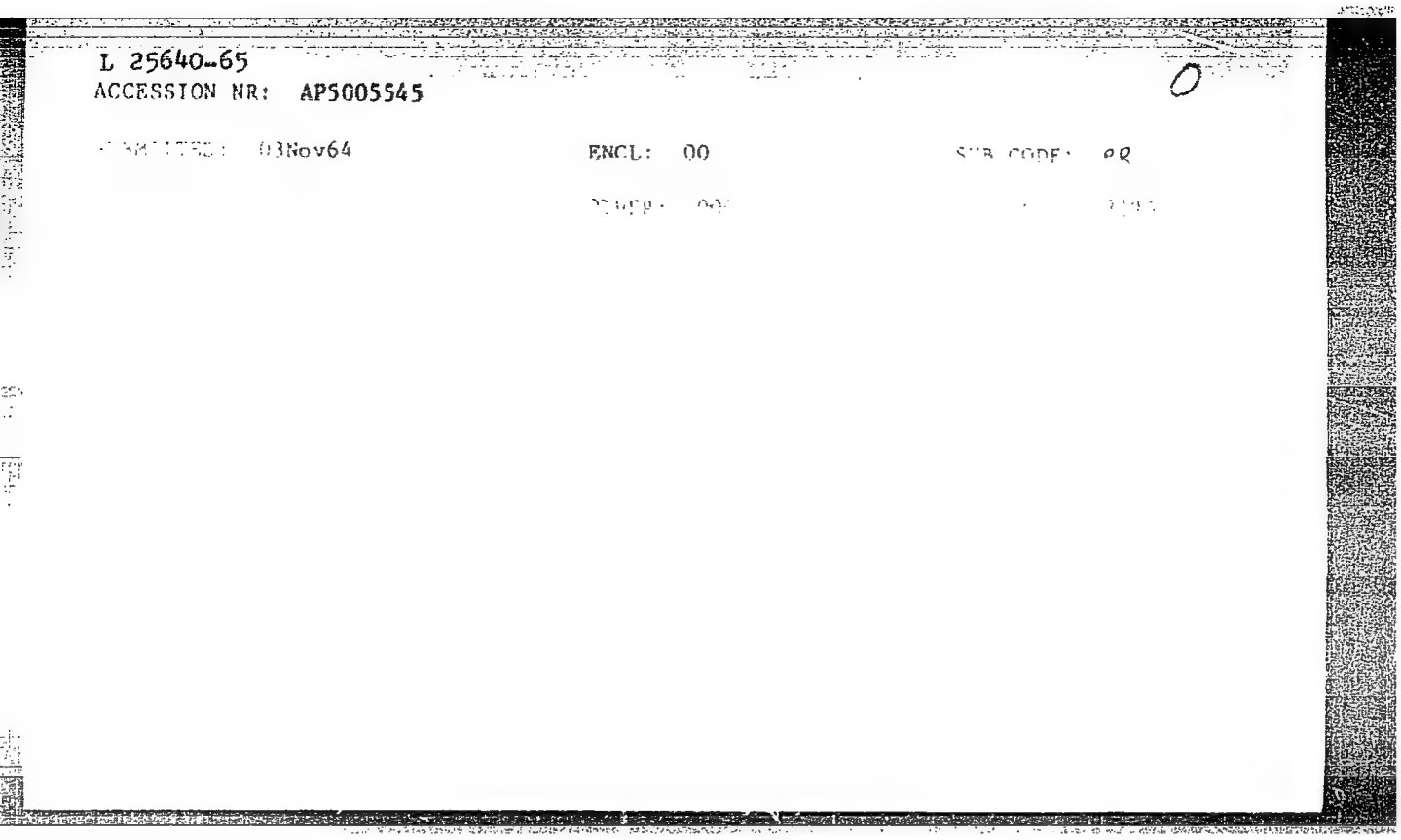
ACCESSION NR: AP5005545 S/0147/65/000/001/0124/0131

[illegible]xperimental study of a fuel evaporator

SOURCE: IVUZ. Aviatsionnaya tekhnika, no. 1, 1965, 124-131

TOPIC TAGS: fuel evaporator, evaporator, jet aircraft, fuel feed system

ABSTRACT: Two types of fuel evaporators, one a dismountable, vertical-tube evaporator and the other a coil-type evaporator, were constructed and tested to verify methods previously developed by the author for calculating the heat transfer surface. In both designs, the fuel (T-1 kerosine) flowed inside the pipes, and the [illegible] outside. Tests were made at hot-gas temperatures of 705 and 635C, gas flow velocities of 195—264 m/sec, and fuel flow rates of 5[illegible]—2[illegible] kg/hr. The experimental and calculated heat transfer surface areas (within a range of 0.02 m^2) [illegible] agreement. Orig. art. has: 8 figures and 10 formulas. [PV]



L 25640-65
ACCESSION NR: AP5005545

0

ENCL: 00

TUR'YAN, V.O., inzhener; DYATLOV, I.P., inzhener; IZBALYKOV, D.A., tekhnik.

Introducing reconstructed rotary kilns. TSement 20 no.5:15-18 S-O '54. (MLRA 7:11)
(Kilns, Rotary)

DYATLOV, I. P.

Methods of obtaining rapid-hardening portland cement. I. P. Dyatlov and S. Sh. Pagieva. *Tsement* 21, No. 3, 24-6 (1955).—Addn. of up to 30% portland-cement dust to ordinary portland cement increases its activity and permits production of rapid-hardening cement. B. Z. Kanich

(1)

DYATLOV, I.P.

Utilizing the dust recovered by Cottrell filters. TSement 28 no.3:18-19 My-Je '62. (MIRA 15:7)

1. Sovet narodnogo khozyaystva Uzbekskoy SSR.
(Dust)
(Cement plants--Equipment and supplies)

AUTHOR: Dyatlov, I. T. 68-58-4-12/21

TITLE: Internal Cost Accounts on Coke Oven Works (O vnutrizavodskom khozraschete na koksokhimicheskikh predpriyatiyakh)

PERIODICAL: Koks i Khimiya, 1958, Nr 4, pp 46-48 (USSR)

ABSTRACT: The dependence or independence from the individual works departments of various factors causing deviations from planned production costs and some deficiencies of the existing accounting system are discussed.

ASSOCIATION: Dnepropetrovskiy khimiko-tekhnologicheskiy institut (Dnepropetrovsk Institute of Chemistry and Technology)

1. Ovens--Operation 2. Industrial plnats--Costs 3. Coke --Production

Card 1/1

SOV/68-58-11-2/25

AUTHORS: Bublikov A.V., Gorodetskiy, N.I., and Dyatlov, I.T.

TITLE: Prospects for the Development of the Dneprodzerzhinsk Coking Works (Perspektivy razvitiya Dneprodzerzhinskogo koksokhimicheskogo zavoda)

PERIODICAL: Koks i Khimiya, 1958, Nr 11, pp 6-7 (USSR)

ABSTRACT: In the development project for 1959-65 of the works, no increase in the output of coke and by-products is planned; instead the whole development will be directed towards the manufacture of new products such as phthalic anhydride, 100% phenols, desulphurisation of coke oven gas by the vacuo-carbonate method, an increase in the dephenolising capacity of effluent water and a number of improvements in the coal cleaning plant, mechanisation of various operations on the top of the batteries, door cleaning as well as some improvements in the tar distillation plant.

Card 1/2

SOV/68-58-11-2/25

Prospects for the Development of the Dnepropdzerzhinsk Coking Works

ASSOCIATION: Dnepropetrovskiy khimiko-tekhnologicheskiy institut (Dnepropetrovsk Institute of Chemical Technology)

Card 2/2

DYATLOV, I.T.

Working capital of by-product coking plants. Koks i khim. no.1: 52-55 '60. (MIRA 13:6)

1. Dnepropetrovskiy khimiko-tekhnologicheskiy institut.
(Coke industry--By-products)

DYATLOV, I.T.

Determination of the constancy in the quality of coal charges and coke by mathematical statistic methods. Koks i khim. no. 3:55-57 '61. (MIRA 14:4)

1. Dnepropetrovskiy khimiko-tekhnologicheskiy institut.
(Coal) (Coke)

DYATLOV, I.T.; ROZENTSVEYG, L.N.

Polarization of protons elastically scattered by C^{12} nuclei.
Uch.zap. KHGU 64 no.6:81-85 '55. (MLRA 10:7)
(Protons--Scattering)

DYATLOV, I. T.

Category : USSR/Theoretical Physics - Quantum Field Theory B-6

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 188

Author : Dyatlov, I.T. and Ter-Martirosyan, K.A.
Inst : Leningrad Phys.-Tech. Inst. of the USSR Acad. of Sciences
Title : Asymptotic Theory of Meson-Meson Scattering

Orig Pub : Zh. eksperim. i teor. fiziki; 1956, 30, No 2, 416-419

Abstract : There exist an infinite number of meson-meson scattering diagrams, the contribution of which the scattering amplitude is of the same order as the contribution of the simplest scattering diagram (square). It is shown that the sum of such diagrams (i.e., the meson-meson scattering amplitude in the approximation by L.D. Landau, A.A. Abrikosov, and I.M. Khalatnikov) is the solution of the integral equation can be determined provided the contribution of the simplest scattering diagrams (squares) is known. The solution of the equation for large meson momenta shows that the contribution of all the diagrams is of the same order of magnitude as the contribution of the simplest ones. This circumstance is of importance to the conclusion that the meson charge is zero.

Card : 1/1

DYATLOV, I. T.

56-1-13/56

AUTHOR: Dyatlov, I. T.

TITLE: Bremsstrahlung of π-Mesons and Production of π-Meson Pairs by γ-Quanta in Collisions With Nonspherical Nuclei (Tormoznoye izlucheniye γ-kvantov π-mezonami i obrazovaniye π-mezonnykh par γ-kvantami pri stolknovenii s nesfericheskimi yadrami)

PERIODICAL: Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki, 1958, Vol. 34, Nr 1 , pp. 80 - 86 (USSR)

ABSTRACT: In the present work the cross sections for some radiation processes taking place on the occasion of an interaction between high-energy π-mesons and nonspherical nuclei are computed. The author investigates the changes of radiation processes on the occasion of collisions of π-mesons with nuclei and of processes of production of π-meson pairs by γ-quanta caused by the nonspherical shape of the nucleus. In this connection a spheroid is used as model of the nucleus which is black in relation to π-mesons. The emission of a γ-quantum by a π-meson consists of the radiation on the occasion of

Card 1/3

56-1-13/56

Bremsstrahlung of π-Mesons and Production of π-Meson Pairs by γ-Quanta in Collisions With Nonspherical Nuclei

scattering of the π-mesons and of the radiation on occasion of absorption. According to Landau and Pomeranchuk (reference 1) both parts of radiation can be determined from the wave function for the π-meson outside of the nucleus. This wave equation and one of its solutions are written down here. The expression for the kernel given here can be used in adiabatic approximation. The author then determines the amplitude of scattering by means of emission and excitation of the n^{th} state of rotation. The total cross sections of emission on the occasion of scattering on a nonspherical nucleus have the same shape with all nuclei symmetrical about their axes with a given ratio of the semiaxes. The corresponding expression is given here and specialized for particular cases. In the case of heavy nuclei and wide angles the cross section of Bremsstrahlung on the occasion of scattering on nonspherical nuclei differs from the corresponding cross section for the spherical nucleus only by a factor. It is also shortly pointed to the difference in angular distribution. The production of π-meson pairs by an approaching γ-quantum can also be investigated by means of the equation investigated here. Com-

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Bremsstrahlung of π-Mesons and Production of π-Meson Pairs by γ-Quanta in Collisions With Nonspherical Nuclei

putations are carried out in completely analogous way as in the case of the spherical nucleus. The differences in angular distribution on the occasion of the production of a pair with a spherical and a nonspherical nucleus are the same as in the case of Bremsstrahlung. In the last chapter the production of a π-meson pair by a γ-quantum with subsequent absorption of one of the components of the pair by a nonspherical nucleus is investigated. In this case the angular distribution and the total cross section also differ from the case of a spherical nucleus only by a factor. Concluding, some remarks are made as to the applicability of the formulae obtained here. There are 1 figure, and 6 references, all of which are Slavic.

ASSOCIATION: Leningrad Physical Institute, AN USSR (Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR)

SUBMITTED: October 22, 1957
AVAILABLE: Library of Congress
Card 3/3

56-1-13/52

AUTHOR: DIATLOV, I.T., SUDAKOV, V.V., TER-MARTIROSIAN, K.A.

TITLE: The Asymptotic Theory of the Scattering of a Meson By a Meson (Asimptoticheskaya teoriya rasseyaniya mezona na mezone. Russian).

PERIODICAL: Zhurnal Eksperim. i Teoret. Fiziki, 1957, Vol 32, Nr 4, pp 767 - 780 (U.S.S.R.)

ABSTRACT: The paper under review determines the asymptotic behavior for the amplitude of the scattering of a meson by a meson in a theory of the type of the theory devised by Landau, Abrikosov and Khalatnikov. First of all, the authors of the paper under review demonstrate that the sum of the contributions of all reducible graphs satisfies an exact integral equation, the form of which depends only on the contribution of the primitive graphs. The computation is carried out step by step, and the integral equation obtained is written down in tis explicit form. With two additional analogous equations a system of three integral equations is obtained, this system defines the functions $F(k_1, k_2, k_3, k_4)$, $F(k_1, k_3, k_2, k_4)$ and $F(k_1, k_4, k_2, k_3)$ unambiguously by the known quantity $R_0(k_1, k_2, k_3, k_4)$, i.e. by the contribution of the primitive graphs. Then the integral equation is specialized for the case of high impulses for the neutral and for the symmetrical theory. In the symmetrical theory, it is possible to eleiminte from consideration the variables of the isotopic spin of the mesons. The total sum $P(x)$ of the reducible graphs is a finite quantity of the same order of magnitude as the contribution

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56-4-18/52

The Asymptotic Theory of the Scattering of a Meson By a Meson

R_0 of the primitive graphs. Finally the paper under review discusses the properties of the renormalization of the amplitude P of the scattering of a meson by a meson. At $L \to \infty$, it is possible to automatically normalize the expressions for the sums P(x) and $P(\xi)$, without being forced to introduce into the Hamiltonian terms proportional to φ^4. (7 reproductions).

ASSOCIATION Not given
PRESENTED BY
SUBMITTED 17 December 1955
AVAILABLE Library of Congress

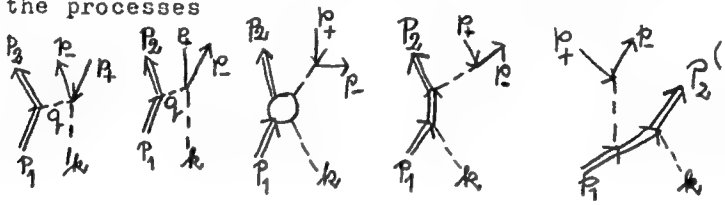
Card 2/2

AUTHOR: ~~Dyatlov, I. T.~~ SOV/56-35-1-21/59

TITLE: The Photoproduction of Electron- and μ-Meson Pairs on Nucleons (Fotoobrazovaniye elektronnykh i μ-mezonnykh par na nuklonakh)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol 35, Nr 1, pp 154 - 158 (USSR)

ABSTRACT: In the present paper the author carries out a theoretical investigation of processes in which electron- or myon pairs are produced on nucleons by high-energy γ-quanta. For the processes



(p_+, p_- are the momentum components of the pair, k - the momentum of the incident quantum),

Card 1/3 an investigation is carried out in order to find out under

what conditions the cross sections can be expressed by means of the electromagnetic form factors (Ref 1) of the free nucleon. For $\hbar = c = 1$ it has the form

$$\Gamma_\mu(q^2) = a(q^2)\gamma_\mu + i\frac{b(q^2)}{2M}\frac{1}{2}(\gamma_\mu\hat{q} - \hat{q}\gamma_\mu) \quad \text{(Ref 2)}$$

(q = momentum, $q^2 = \vec{q}^2 - q_0^2$; $\hat{q} = q_\nu\gamma_\nu$, M = nucleon mass, $a(q^2)$ and $b(q^2)$ are real functions, for $q^2 \to 0$ $a(q^2)$ tends towards 1 or 0 for proton and neutron respectively, $b(q^2)$ tends towards the anomalous magnetic moment μ_0 (in nuclear magnetons). The deviation from these limiting values to be expected for the case that $q \gtrsim \mu$ (μ - mass of the pion) is investigated. In conclusion the author thanks I.M.Shmushkevich for his valuable advice. There are 1 figure and 3 references, 1 of which is Soviet.

SUBMITTED: February 8, 1958

DYATLOV, I.T., Cand Phys-Math Sci -- (diss) "Certain processes connected with the interaction of lambda-mesons and nucleons with an electromagnetic field at high energy." Leningrad, 1959. 7 pp (Acad Sci USSR. Len Phys-Tech Inst). 175 copies Bibliography at end of text (10 titles) (KL,40-59, 101)

24(5)
AUTHOR: Dyatlov, I. T.

SOV/56-36-2-23/63

TITLE: Dispersion Relations for the Electromagnetic Form Factor of the π-Meson (Dispersionnyye sootnosheniya dlya elektromagnitnogo form-faktora π-mezona)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 36, Nr 2, pp 505-507 (USSR)

ABSTRACT: For the electromagnetic form factor of the pion it is possible, in connection with the imaginary part of the annihilation amplitude of two pions, to set up a dispersion relation, which, compared to that of the same nature set up by Barnstein and Goldberger (Barnshteyn, Gol' dberger)(Ref 1) for nucleons, contains no nonphysical domain. In the present paper the author derives dispersion relations for the electromagnetic form factor of a charged pion. By considering only the contribution of a state with two pions in the imaginary part, an equation has been obtained, which yields the form factor as a function of the $\pi - \pi$-meson scattering phase shift. The theoretical process is as follows: The analytical properties of a matrix element of the electromagnetic current $j_\mu(x)|_{x=0}$

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$(\Box A_\mu(x) = -j_\mu(x))$ between pion states with the pulses p' and p and the isotopic indices i and k, $\langle p',i|j_\mu(0)|p,k\rangle$, are investigated. From relativistic and isotopic invariance it follows for the gauge-invariant part of this matrix element that $\langle p'i|j_\mu(0)|pk\rangle = e(p'-p)_\mu\left[a_S(q^2) + a_V(q^2)T_3\right]_{ik}$, where $q = p' - p$; T_3 is the operator of the third projection of the isotopic spin for $T = 1$, and the form factor is $ea_V(q^2) = \frac{(p'-p)_\mu\langle p'|j_\mu^V(0)|p\rangle}{(p'+p)^2}\,2\sqrt{\omega_p\omega_{p'}}$. By using the formulae of reference 2 one obtains: $(a_V(q^2) = a(q^2))$:

$$a(q^2) = -\frac{1}{\pi}\int_{4\mu^2}^{\infty}\frac{\mathrm{Im}\,b(-\xi^2)\,d\xi^2}{\xi^2 + q^2}\,,\quad q^2 > 0;$$

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Dispersion Relations for the Electromagnetic Form Factor of the π -Meson SOV/56-36-2-23/63

$$\mathrm{Re}\,b(q^2) = -\frac{1}{\pi} P \int_{4\mu^2}^{\infty} \frac{\mathrm{Im}\,b(-\xi^2)\,d\xi^2}{\xi^2 + q^2}, \quad q < -4\mu^2$$

where $b(q^2)$ is the "form factor" for pion pair production and/or annihilation. It holds that $\mathrm{Im}\,b(q^2) = \pm |b(q^2)| \sin\delta(q^2)$, where δ is the π- π -scattering phase shift ($l = 1$, $T = 1$). For $q^2 \leq -16\mu^2$ this expression is exact. The author finally thanks I. M. Shmushkevich for suggesting the subject and V. N. Gribov for valuable discussions. There are 4 references, 1 of which is Soviet.

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR (Leningrad Physico-Technical Institute of the Academy of Sciences, USSR)

SUBMITTED: July 4, 1958

Card 3/3

GRIBOV, V.N.; DANILOV, G.S.; DYATLOV, I.T.

Analytical properties of a square diagram with nondecaying masses.
Zhur.eksp.i teor.fiz. 41 no.3:924-936 S '61. (MIRA 14:10)

1. Leningradskiy fiziko-tekhnicheskiy institut AN SSSR.
(Nuclear reactions) (Functions, Analytic)

GRIBOV, V.N.; DANILOV, G.S.; DYATLOV, I.T.

Analytic properties of a square diagram with decay masses. Zhur. eksp.i teor.fiz. 41 no.4:1215-1220 O '61. (MIRA 14:10)

1. Leningradskiy fiziko-tekhnicheskiy institut AN SSSR.
(Perturbation) (Particles (Nuclear physics))

S/056/62/042/001/032/048
B125/B102

AUTHORS: Gribov, V. N., Dyatlov, I. T.

TITLE: Analytic continuation of the three-particle unitarity condition. Simplest diagrams

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no.1, 1962, 196-210

TEXT: The three-particle unitarity condition for the simplest class of diagrams is analytically continued with respect to the transferred momentum t. Owing to the complex structure of the unitarity condition the method used for determining the spectral functions can hardly be used to determine the high intermediary states and the theory which bases on the analyticity and unitarity conditions cannot be formulated unless simpler and more general principles have been developed for the formulation of the equations. The unitarity condition

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Analytic continuation of the three-...

$$\operatorname{Im} A = A_1^{(2)} + A_1^{(3)};$$

$$A_1^{(2)}(p_1, p_2; p_3, p_4) = \frac{1}{2(2\pi)^2}\int d^4p_5 d^4p_6 A(p_1, p_2; p_5, p_6) A^*(p_5, p_6; p_3, p_4) \times \quad (1),$$
$$\times \delta(p_5^2 - m_5^2)\,\delta(p_6^2 - m_6^2)\,\delta^{(4)}(p_1 + p_2 - p_5 - p_6),$$

$$A_1^{(3)}(p_1, p_2; p_3, p_4) = \frac{1}{2(2\pi)^5}\int d^4p_5 d^4p_6 d^4p_7 A(p_1, p_2; p_5, p_6, p_7) \times$$
$$\times A^*(p_5, p_6, p_7; p_3, p_4)\,\theta(p_{50})\,\delta(p_5^2 - m_5^2)\,\theta(p_{60})\,\delta(p_6^2 - m_6^2)\,\theta(p_{70})\,\delta(p_7^2 - m_7^2) \times$$
$$\times \delta^{(4)}(p_1 + p_2 - p_5 - p_6 - p_7), \quad (2)$$

with the normalization condition $S = 1 + i(2\pi)^4 (\sum p_i - \sum p_f) A \prod_i (2\omega)_i \prod_f (2\omega)_f^{-1/2}$

for the invariant amplitudes which is written as the integral over the invariant variables can be reduced to

$$A_1^{(2)}(s, t) = \frac{1}{16\pi^2}\frac{p_s}{\sqrt{s}}\int \frac{dz_{15}dz_{35}}{\sqrt{-K(z, z_{15}, z_{35})}} A(s, t_{16}) A^*(s, t_{36}). \quad (6)$$

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Analytic continuation of the three-...

for two particles. p_i is the momentum of the i-th particle in the center-of-mass system. For three particles it reduces to

$$A_1^{(3)}(s, t) = \frac{1}{64(2\pi)^5 s}\int ds_{57}\, ds_{67}\, dz_{15}\, dz_{35}\, dz_{26}\, dz_{46}\delta[\square(z_{ik})] \times \times A(s, s_{57}, s_{67}, t_{15}, t_{26})\, A^*(s, s_{57}, s_{67}, t_{35}, t_{46})]. \quad (10)$$

with $t_{ik} = (p_i - p_k)^2 = m_i^2 + m_k^2 - 2p_{io}p_{ko} + 2p_i p_k z_{ik}$. The procedure by S. Mandelstam (Phys. Rev., 112, 1344, 1958) cannot be used to study the contribution of the intermediary state for three particles. With the derivation given by the authors the integral need not be calculated.

After integration of $A_1^{(2)}(z) = \int_{-1}^{+1} dz_1 f(z,z_1)A(z_1)$ with

$f(z,z_1) = (1/2)\int_{C_3} dz_3 A^*(z_3)/ -K(z,z_1,z_3)$ along the lines shown in Fig.2,

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$f(z,z_1+i) - f(z,z_1 - i)$ is expressed by an integral over the contour C_3' and the formulas

$$\rho^{(2)}(z) = \frac{1}{2i}[A_1^{(2)}(z + i\varepsilon) - A_1^{(2)}(z - i\varepsilon)] = \int_{C_1} f(z, z_1)\frac{1}{2i}[A(z_1 + i\varepsilon) -$$

$$- A(z_1 - i\varepsilon)]\,dz_1 = \int_{z_1^{(1)}}^{z_1^{(-)}(z)} dz_1 A_3(z_1)\,[f(z, z_1 + i\varepsilon) - f(z, z_1 - i\varepsilon)]. \qquad (15a)$$

Мы обозначили $A_3(z_1) = [A(z_1 + i\varepsilon) - A(z_1 - i\varepsilon)]/2i$. Далее,

$$f(z, z_1 + i\varepsilon) - f(z, z_1 - i\varepsilon) = 2\int_{z_3^{(1)}}^{z_3^{(-)}} \frac{dz_3}{\sqrt{K(z, z_1, z_3)}}\frac{1}{2i}[A^*(z_3 + i\varepsilon) - A^*(z_3 - i\varepsilon)],$$

and

$$\rho^{(2)}(s, z) = 2\int \frac{dz_1\,dz_3 A_3(z_1)\,A_3^*(z_3)}{\sqrt{K(z, z_1, z_3)}}\,\vartheta(z - z_1 z_3 - \sqrt{(z_1^2 - 1)(z_3^2 - 1)}). \qquad (15b)$$

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are obtained. When calculating the analytic continuation of the unitarity condition (10) for three particles the analytic properties of the amplitudes A and A^* of the reactions with participation of the five particles which are not yet known for the general case must be known. However, when studying the simplest graph (Fig. 4) of the three-particle-state some general properties of the intermediary state are found if the five-tail amplitudes A and A* have very simple analytic properties. More complex analytic properties of A and A* will be studied in a later paper. The formulas for $\rho(s,t)$ obtained in the present paper correspond to the representation by R. Cutkovskiy (J. Math. and Phys., 1, 429, 1960) of $\rho(s,t)$ for an arbitrary graph in the form of a Feynman integral if the parts of the internal lines correspond to δ-function of $q_i^2 - m_i^2$. There are 10 figures and 5 non-Soviet references. The four most recent references to English-language publications read as follows: R. Cutkovskiy, J. Math. and Phys., 1, 429, 1960; S. Mandelshtam, Phys. Rev. Lett., 4, 84, 1960; R. W. Lardner. Nuovo Cim., 19, 77, 1961, L. D. Landau. Nucl. Phys., 13, 181, 1959.

Card 5/6

Analytic continuation of the three-...

ASSOCIATION: Leningradskiy fiziko-tekhnicheskiy institut Akademii nauk SSSR (Leningrad Physicotechnical Institute of the Academy of Sciences USSR)

SUBMITTED: July 21, 1961

FIG. 2

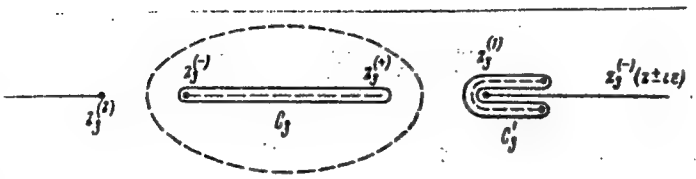
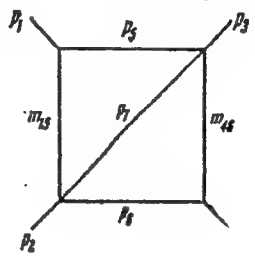


FIG. 4



Card 1/1

S/056/62/042/005/020/050
B102/B104

54.4460

AUTHORS: Gribov, V. N., Dyatlov, I. T.

TITLE: Contribution of three-particle states to the spectral function equation

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42, no. 5, 1962, 1268-1277

TEXT: This paper is published in continuation of a previous article (ZhETF, 42, 196, 1962), in which an expression was found for the Mandelstam function $\varrho(s,t)$ (cf. Phys. Rev., 112, 1344, 1958), for the simplest class of graphs in perturbation theory, containing three-particle intermediate states (Fig. 1). This spectral function is an integral over five δ-functions, which correspond to the inner lines of the graph. It is shown here that a similar procedure can also be applied to far more complicated graphs (Fig. 3), if attention be confined to the abstract representation of the graph (Fig. 4). It can be shown that the field of integration can be made independent of the properties of the amplitudes in respect of variables s_{57} and s_{67}, and that the corresponding

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function $\varrho^{(3)}(s,t)$ can be represented (Fig. 2) as an integral over the absorption terms of the amplitudes A_1 and A_2. The three-particle intermediate state in the unitarity condition supplies a contribution to $\sigma(s,t)$ in the form of an integral entirely similar to that obtained by Mandelstam for the two-particle state contribution. This enables the graphs to be "divided" for purposes of simpler calculation: any particular diagram with four ends can be analysed into four parts by two divisions, so that one and only one exterior line is associated with each part. The dividing lines replace δ-functions of $p_i^2-m_i^2$. Integration is performed over a certain complex domain of the invariant variables, multiplying by a factor which is easily determined from the unitarity condition. Anomalies generate contributions to $\varrho(s,t)$ expressed, not as ordinary, but as multiple amplitude discontinuities. As in the work previously reported, an expression is derived for $\varrho^{(3)}(s,t)$ in which $t = t(s)$ is assumed arbitrary. The expression obtained for $m_{15}^2 < (m_1 + m_5)^2$ is

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S/056/62/043/003/026/063
B102/B104

AUTHORS: Anisovich, V. V., Ansel'm, A. A., Gribov, V. N., Dyatlov, I.T.

TITLE: Anomalous thresholds and interaction in the final state

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43, no. 3(9), 1962, 906-908

TEXT: The authors study the influence of anomalous three-particle production amplitude singularities on the analytical amplitude properties when two of the particles have small energies. It is shown from the example of meson production in meson-nucleon collisions (graph Fig. 1) that the presence of anomalous terms in the dispersion relations do not influence the amplitude expansion in a power series of the threshold momenta. This graph has a logarithmic singularity at $s = 4\mu^2$ (Sawyer, Phys. Rev. Lett. 7, 213, 1961) and an anomalous one at

$$s_b = \frac{\mu^2(W+3M^2-\mu^2)}{2M^2} - i\frac{\mu}{2M^2}\sqrt{4M^2-\mu^2}\,[W^2-2W(M^2+\mu^2)+(M^2-\mu^2)^2]^{1/2}, \quad (1)$$

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where $W = (k_1+p_1)^2$ is the total energy of the system in the c. m. s., M the nucleon mass and μ the meson mass. For super-threshold energies $W > (M+2\mu)^2$ in dispersion representation

$$A(s) = \frac{1}{\pi}\int_C \frac{A_1(s')\,ds'}{s'-s} = \frac{1}{\pi}\int_{s_0}^{4\mu^2} \frac{\rho(s')\,ds'}{s'-s} + \frac{1}{\pi}\int_{4\mu^2}^{\infty} \frac{A_1(s')\,ds'}{s'-s}; \quad \rho(s') = A_1^+(s') - A_1^-(s'). \qquad (2,3)$$

With this separation the logarithmic singularity of the first integral is compensated by the second, so that $A_1(s)$ is determined by the unitarity condition for $s > (\sqrt{W} + M)^2$. For smaller s it is possible to obtain $A_1(s)$ as analytic continuation from the region $s > (\sqrt{W}+M)^2$. For point vertices and $s > (\sqrt{W}+M)^2$,

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$$A_1(s) = \{s/[s-(\sqrt{W}-M)^2][s-(\sqrt{W}+M)^2]\}^{1/4} \times$$
$$\times \ln \frac{s-W+M^2-2\mu^2-\sqrt{(s-4\mu^2)/s}\{[s-(\sqrt{W}-M)^2][s-(\sqrt{W}+M)^2]\}^{1/4}}{s-W+M^2-2\mu^2+\sqrt{(s-4\mu^2)/s}\{[s-(\sqrt{W}-M)^2][s-(\sqrt{W}+M)^2]\}^{1/4}}. \quad (4).$$

The amplitude discontinuity at $s = 4\mu^2$ tends to zero as $\sqrt{s-4\mu^2}$. Finally the behavior of the singularity of (4) at $\sqrt{W} \approx M+2\mu$ for the production of three low-energy particles is discussed. There are 3 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe Akademii nauk SSSR (Physicotechnical Institute imeni A. F. Ioffe of the Academy of Sciences USSR)

SUBMITTED: March 6, 1962

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GRIBOV, V.N.; DYATLOV, I.T.

Contribution of three-particle states to the spectral function equation. Zhur. eksp. i teor. fiz. 42 no.5:1268-1277 My '62. (MIRA 15:9)

1. Fiziko-tekhnicheskiy institut AN SSSR.
(Problem of three bodies) (Graphic methods)

ANISOVICH, V.V.; ANSEL'M, A.A.; GRIBOV, V.N.; DYATLOV, I.T.

Anomalous thresholds and interaction in the finite state. Zhur. eksp. i teor. fiz. 43 no.3:906-908 '62. (MIRA 15:10)

1. Fiziko-tekhnicheskiy institut imeni A.F.Ioffe AN SSSR.
(Nuclear reactions)

L 55255-65 EWT(m)/T/EWA(m)-2

ACCESSION NR: AP5014203 UR/0386/65/001/002/0050/0054

AUTHOR: Azimov, Ya. I.; Anisovich, V. V.; Ansel'm, A. A.; Danilov, G. S.; Dyatlov, I. T.

TITLE: Electromagnetic meson decays in the quark model

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu. Prilozheniye, v. 1, no. 2, 1965, 50-54

TOPIC TAGS: meson, strange particle, quark model

ABSTRACT: The hypothesis of SU(6) symmetry in strong interactions leads to a large number of relationships between the various matrix elements. In this paper it is pointed out that the use of SU(6) symmetry and the quark model in studying electromagnetic meson decays leads to predictions which may be experimentally verified in the near future. It is suggested that the magnetic moment of a quark may be independent of the type of interaction which binds quarks in particles, as should be the case in the non-relativistic model with weakly bound quarks. "The authors are grateful to V. M. Shekhter for useful consultation." Orig. art. has: 1 table, 2 formulas.

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L 65255-65
ACCESSION NR: AP5014203

ASSOCIATION: Fiziko-tekhnicheskiy institut im. A. F. Ioffe (Physicotechnical Institute)

SUBMITTED: 19Mar65 ENCL: 00 SUB CODE: NP

NO REF SOV: 002 OTHER: 005

Card 2/2

AYMAN, Ya.I.; GRIBOV, V.N.; [illegible]

Model of the three-particle unitarity condition for complex momenta. Izv. fiz. 3 no.6:1121-1126 '65.

(MIRA 19:1)

1. Leningradskiy fiziko-tekhnicheskiy institut [illegible].

L 44748-65 EWT(m) DIAAP

ACCESSION NR: AP5016572 UR/0056/65/048/006/1776/1786

AUTHOR: Bronzan, Ya.I.; Ansel'm, A.A.; Gri[illegible], V.N.; Pavlov, G.S.; [illegible]

TITLE: Three-particle unitarity conditions for complex angular [illegible] the Mandelstam branch points

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 48, [illegible], 1776-1786

TOPIC TAGS: moving pole method, quantum electrodynamics, elementary particle, particle interaction

ABSTRACT: A study is made of the contribution of three-particle [illegible] the unitarity condition for the partial-wave amplitude. [illegible] unitarity condition is continued to [illegible] of momentum j in such a way that no singularities of the amplitudes take place for large Re j. Special attention is paid to

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L 64748-65

ACCESSION NR: AP5016572

... unitarity condition for the three-particle amplitude ... form of the ... [illegible] ... out that ... [illegible] ... form of the unitarity ... with the form used in an ... [illegible] ... N. ... (Preprint, ITEF, 1964) is ... [illegible] ... The possibility of writing down the three-particle ... [illegible] ... in the form integral with respect to ... [illegible] ... It is shown in a future article (ZhETF ... [illegible] ... that the three-particle amplitudes introduced in the present article can be continued to complex J and have the required properties. ... [illegible] ... "I thank I. Ya. Pomeranchuk and K. A. Ter-Martirosyan for discussions." Orig. art. has: 29 formulas and 2 figures.

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